

Claims

We claim:

1. A method comprising the steps of:
5 at a subscriber unit:
determining that there is information to transmit;
requesting an amount of bandwidth;
receiving a reservation grant, wherein the reservation grant comprises an
amount of granted bandwidth and at least one timer value;
10 extracting the at least one timer value from the reservation grant; and
using the at least one timer value to detect loss of granted bandwidth.
2. The method of claim 1 wherein the at least one timer value is dynamically
determined by the fixed network equipment based on current conditions.
15
3. The method of claim 2 wherein the at least one timer value is based on at
least one of the following: current loading conditions of an inbound channel,
current radio frequency conditions of the inbound channel, a quality of service
requested by the subscriber unit, a quality of service assigned to the subscriber
20 unit, a priority level requested by the subscriber unit, and a priority level assigned
to the subscriber unit.
4. The method of claim 1 further comprising the steps of:
starting a first timer, wherein the first timer is initialized with the first
25 timer value; and
when a slot allocation bit is not received prior to the expiration of the first
timer, determining a loss of granted bandwidth.

5. The method of claim 4 further comprising the steps of, after the step of determining a loss of granted bandwidth:
failing the reservation grant; and
transmitting a second request for bandwidth to transmit any remaining
5 information.
6. The method of claim 4 wherein the step of starting the first timer is performed after receiving a first slot allocation bit.
- 10 7. The method of claim 6 further comprising the steps of:
extracting a second timer value from the reservation grant;
starting a second timer after receiving the reservation grant, wherein the second timer is initialized with the second timer value; and
if a first slot allocation bit for the granted bandwidth is not received prior
15 to the expiration of the second timer, determining a loss of granted bandwidth.
8. The method of claim 1 further comprising the steps of:
extracting a value representing an amount of bandwidth granted from the reservation grant; and
20 initializing a counter with the value.
9. The method of claim 8 further comprising the step of decrementing the counter after receipt of each slot assignment bit.
- 25 10. The method of claim 9 further comprising the step of concluding that the reservation grant is completed when the counter is decremented to zero.

11. A method comprising the steps of:
receiving a request for bandwidth from a first subscriber unit;
determining that the requested bandwidth is available;
dynamically determining at least a first timer value to be used by the first
5 subscriber unit to detect a loss of granted bandwidth; and
transmitting a reservation grant to the subscriber unit granting the request,
wherein the reservation grant comprises at least the first timer value.
12. The method of claim 11 further comprising the step of dynamically
10 determining a second timer value to be used by the first subscriber unit indicating
an amount of time the first subscriber unit must wait to receive a first slot
assignment bit before the first subscriber unit determines a loss of granted
bandwidth.
13. The method of claim 12 wherein the first timer value indicates an amount
15 of time the first subscriber unit must wait to receive at least a second slot
assignment bit before the first subscriber unit determines a loss of granted
bandwidth.
14. The method of claim 12 wherein the second timer value is based on at
20 least one of the following: current loading conditions of the channel upon receipt
of the request for bandwidth, current radio frequency condition of the channel
upon receipt of the request for bandwidth, a quality of service requested by the
subscriber unit, a quality of service assigned to the subscriber unit, a priority level
25 requested by the subscriber unit, a priority level assigned to the subscriber unit.

15. The method of claim 12 further comprising the steps of:
starting a first timer, wherein the first timer is set to expire after a first amount of time, and wherein the first amount of time is dependent on the second timer value;

5 if the first slot assignment bit can be assigned to the subscriber unit prior to expiration of the first timer, transmitting the first slot assignment bit to the subscriber unit prior to the expiration of the first timer; otherwise, failing the reservation grant.

10 16. The method of claim 15 further comprising the steps of:
after the step of transmitting the first slot assignment, starting a second timer, wherein the second timer is set to expire after a second amount of time, and wherein the second amount of time is dependent on the first value; and

15 if a second slot assignment bit can be assigned to the subscriber unit prior to expiration of the second timer, transmitting the second slot assignment bit to the subscriber unit prior to the expiration of the second timer; otherwise, failing the reservation grant.

17. The method of claim 11 further comprising the steps of:

20 starting a first timer, wherein the first timer is set to expire after a first amount of time, and wherein the first amount of time is dependent on the first timer value; and

25 if a slot assignment bit can be assigned to the subscriber unit prior to expiration of the first timer, transmitting a slot assignment bit to the subscriber unit prior to the expiration of the first timer; otherwise, failing the reservation grant.

18. The method of claim 17 further comprising the step of:
receiving a request for bandwidth from a second subscriber unit;
determining that the request for bandwidth from the second subscriber unit
preempts the request for bandwidth from the first subscriber unit;
5 granting the request for bandwidth to the second subscriber; and
failing the reservation grant for the first subscriber unit by failing to
transmit a slot assignment bit to the first subscriber prior to expiration of the first
timer.

10 19. The method of claim 11 wherein the first timer value is based on at least
one of the following: current loading conditions of the channel upon receipt of the
request for bandwidth, current radio frequency condition of the channel upon
receipt of the request for bandwidth, a quality of service requested by the
subscriber unit, a quality of service assigned to the subscriber unit, a priority level
15 requested by the subscriber unit, a priority level assigned to the subscriber unit.

20. The method of claim 11 further comprising the step of allocating inbound
slots to the subscriber unit in a non-deterministic fashion.

20